

## Summary of Safety and Effectiveness

**Applicant/Sponsor:** Biomet, Inc.  
56 E. Bell Drive  
Warsaw, Indiana 46582

**Contact Person:** Mary L. Verstynen  
Telephone: (219) 267-6639  
Fax: (219) 372-1683

**Proprietary Name:** 3i® Calcium Sulfate Bone Cement

**Common Name:** calcium sulfate dihydrate

**Classification Name:** Implant, endosseous for bone filling and/or reconstruction  
(872.3640)

**Legally Marketed Device To Which Substantial Equivalence Is Claimed:**  
CAPSET® Calcium Sulfate Bone Graft Plaster

**Device Description:** 3i® Calcium Sulfate Cement is packaged in two syringes. One syringe contains the powder component while the other syringe contains the liquid component. The powder component is calcium sulfate dihydrate ( $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ ). The liquid component is a solution comprised of potassium citrate monohydrate ( $\text{K}_3\text{C}_6\text{H}_5\text{O}_7 \cdot \text{H}_2\text{O}$ ), sodium phosphate dibasic ( $\text{Na}_2\text{HPO}_4 \cdot 7\text{H}_2\text{O}$ ), and distilled water ( $\text{H}_2\text{O}$ ). The syringe with the liquid component comes with a female-female Luer coupler for connecting the two syringes together for mixing. When mixed, the powder and liquid combine to form a homogenous paste. The paste hardens approximately 5-10 minutes after the start of mixing.

**Intended Use:** 3i® Calcium Sulfate Bone Cement is used over a filled defect providing a stable barrier to graft material migration and is also indicated for use as a binder of bone graft particles.

**Summary of Technologies:** The cement has the same technological characteristics as the predicate device

**Non-Clinical Testing:** 3i® Calcium Sulfate Cement is biodegradable and in animal studies, depending on the defect size, was found to resorb in approximately four to eight weeks. Biocompatibility testing and animal studies demonstrate the safety of the material, which was found to be non-toxic, non-mutagenic, non-hemolytic, and non-pyrogenic.

**Clinical Testing:** Not performed on this device.

3i is a registered trademark of Implants Innovations, Inc.  
Capset is a registered trademark of Lifecore Biomedical, Inc.



SEP 19 2001

Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

Implant Innovations, Incorporated  
C/O Ms. Mary L. Verstynen  
Biomet, Incorporated  
56 East Bell Drive  
Warsaw, India 46582

Re: K012047

Trade/Device Name: 3I Calcium Sulfate Bone Cement  
Regulation Number: None  
Regulation Name: Calcium Ulfate Dihydrate  
Regulatory Class: Unclassified  
Product Code: LYC  
Dated: June 22, 2001  
Received: June 29, 2001

Dear Ms. Verstynen:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

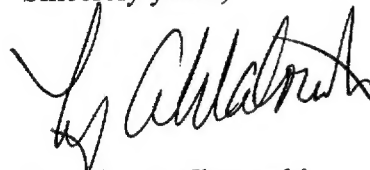
Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration

and listing (21 CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (section 531-542 of the Act; 21); CFR 1000-1050.

This letter will allow you to begin marketing your device as described in your 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801 and additionally 809.10 for in vitro diagnostic devices), please contact the Office of Compliance at (301) 594-4613. Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR 807.97). Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its Internet address <http://www.fda.gov/cdrh/dsma/dsmamain.html>.

Sincerely yours,

A handwritten signature in black ink, appearing to read "T. Ulatowski", is written over the typed name.

Timothy A. Ulatowski  
Director  
Division of Dental, Infection Control  
and General Hospital Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

K012047

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510(k) NUMBER (IF KNOWN): K012047

DEVICE NAME: 3i® Calcium Sulfate Bone Cement

INDICATIONS FOR USE:

3i®'s Calcium Sulfate Bone Cement is used over a filled defect providing a stable barrier to graft material migration and is also indicated for use as a binder of bone graft particles.

For use in dental applications only.

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED.)

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Concurrence of CDRH, Office of Device Evaluation (ODE)

Prescription Use ☒   
 (Per 21 CFR 801.109)

OR

Over-The-Counter-Use ☐   
 (Optional Format 1-2-96)

Susan Pham  
(Division Sign-Off)  
Division of Dental, Infection Control,  
and General Hospital Devices  
510(k) Number K012047